



SEQUENCE LISTING

RECEIVED
APR 11 2003
TECH CENTER 1600/2900

<110> Metabolix, Inc.
Aquin, Stephanie
Peoples, Oliver P.
Snell, Kristi D.

<120> PRODUCTION OF MEDIUM CHAIN LENGTH POLYHYDROXYALKANOATES FROM FATTY ACID
BIOSYNTHETIC PATHWAYS

<130> MBX 041

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<170> PatentIn version 3.1

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<223> primer phaGF-EcoRI

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cggcacgcac cgtgctgcgc caggccgtgc gccaacccgt gcacagcgcc aagcatgtgg     180
cccactttgg cctggagctg aagaacgtgc tgctgggcaa gtccagcctt gccccgaaa     240
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| tgcaaaccta tctggcctgg cgcaaggagc tgcaggactg gatcggcaac agcgacctgt | 360 |
| cgccccagga catcagccgc ggccagttcg tcatcaacct gatgaccgaa gccatggctc | 420 |
| cgaccaacac cctgtccaac ccggcagcag tcaaacgctt cttcgaaacc ggccggcaaga | 480 |
| gcctgctcga tggcctgtcc aacctggcca aggacctggt caacaacggt ggcatgccca | 540 |
| gccaggtgaa catggacgcc ttcgaggtgg gcaagaacct gggcaccagt gaaggcgccg | 600 |
| tgggtgtaccg caacgatgtg ctggagctga tccagtacaa ccccatcacc gagcaggtgc | 660 |
| atgcccggcc gctgctggtg gtgccgccgc agatcaacaa gttctacgta ttcgacctga | 720 |
| gcccggaaaa gagcctggca cgctactgcc tgcgctcgca gcagcagacc ttcatcatca | 780 |
| gctggcgcaa cccgaccaa gcccagcgcg aatggggcct gtccacctac atcgacgcgc | 840 |
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| gtgcctgctc cggcggcatc acctgcacgg cattggctcg ccactatgcc gccctcggcg | 960 |
| aaaacaaggt caatgccctg accctgctgg tcagcgtgct ggacaccacc atggacaacc | 1020 |
| aggtcgccct gttcgtcgac gagcagactt tggaggccgc caagcgccac tcctaccagg | 1080 |
| ccggtgtgct cgaaggcagc gagatggcca aggtgttcgc ctggatgcgc cccaacgacc | 1140 |
| tgatctggaa ctactgggtc aacaactacc tgctcggcaa cgagccgccc gtgttcgaca | 1200 |
| tcctgtttctg gaacaacgac accacgcgcc tgccggccgc cttccacggc gacctgatcg | 1260 |
| aaatgttcaa gagcaaccgc ctgaccgcgc cggacgcctt ggaggtttgc ggcaactcca | 1320 |
| tcgacctgaa acaggtcaaa tgcgacatct acagccttgc cggcaccaac gaccacatca | 1380 |
| ccccgtggca gtcattgtac cgctcggcgc acctgttcgg cggcaagatc gagttcgtgc | 1440 |
| tgtccaacag cggccacatc cagagcatcc tcaaccgcc aggcaacccc aaggcgcgct | 1500 |
| tcattgaccg tgccgatcgc ccgggtgacc cgggtggcctg gcaggaaaac gccaccaagc | 1560 |
| atgccgactc ctggtggctg cactggcaaa gctggctggg cgagcgtgcc ggcgagctgg | 1620 |
| aaaaggcgcc gaccgcctg ggcaaccgtg cctatgccgc tggcgaggca tccccgggca | 1680 |
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<220>

<223> plasmid pSU-PhaCp.o.trc.PhaG

<400> 11

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| cggcacgcac cgtgctgctg caggccgtgc gccaacgct gcacagcgcc aagcatgtgg | 180 |
| cccacttttg cctggagctg aagaacgtgc tgctgggcaa gtccagcctt gccccgaaa | 240 |
| gcgacgaccg tcgcttcaat gacccggcat ggagcaacaa cccactttac cgccgctacc | 300 |
| tgcaaaccta tctggcctgg cgcaaggagc tgcaggactg gatcggaac agcgacctgt | 360 |
| cgccccagga catcagccgc ggccagttcg tcatcaacct gatgaccgaa gccatggctc | 420 |
| cgaccaacac cctgtccaac ccggcagcag tcaaacgctt cttegaaacc ggcggcaaga | 480 |
| gcctgctcga tggcctgtcc aacctggcca aggacctggc caacaacggt ggcattgcca | 540 |
| gccaggtgaa catggacgcc ttcgaggtgg gcaagaacct gggcaccagt gaaggcgccg | 600 |
| tggtgtaccg caacgatgtg ctggagctga tccagtacaa gccatcacc gagcaggtgc | 660 |
| atgcccggcc gctgctggcg gtgcccgcgc agatcaacaa gttctacgta ttcgacctga | 720 |
| gccccgaaaa gagcctggca cgctactgcc tgcgctcgca gcagcagacc ttcacatca | 780 |
| gctggcgcaa cccgaccaa gccagcgcg aatggggcct gtccacctac atcgacgcgc | 840 |
| tcaaggaggc ggtcgacgcg gtgctggcga ttaccggcag caaggacctg aacatgctcg | 900 |
| gtgcctgctc cggcggcatc acctgcacgg cattggctcg ccactatgcc gccctcgcg | 960 |
| aaaacaaggt caatgccctg acctgctgg tcagcgtgct ggacaccacc atggacaacc | 1020 |
| aggtcgccct gttegtcgac gagcagactt tggaggccgc caagcgccac tcctaccagg | 1080 |
| ccggtgtgct cgaaggcagc gagatggcca aggtgttcgc ctggatgcgc cccaacgacc | 1140 |
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| tcctgttctg gaacaacgac accacgcgcc tgccggccgc cttccacggc gacctgatcg | 1260 |
| aatgttcaa gagcaacccg ctgacccgcc cggacgcctt ggaggtttgc ggcactccga | 1320 |
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| gaggttttta tgaggccaga aatcgctgta cttgatatcc aaggtcagta tcgggtttac | 1860 |
| acggagttct atcgcgcgga tgcggccgaa aacacgatca tcctgatcaa cggctcgctg | 1920 |
| gccaccacgg cctcgttcgc ccagacggta cgtaacctgc acccacagtt caacgtgggt | 1980 |
| ctgttcgacc agccgtattc aggcaagtcc aagccgcaca accgtcagga acggctgac | 2040 |
| agcaaggaga ccgaggcgca tatcctcctt gagctgatcg agcacttcca ggcagaccac | 2100 |
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<211> 1664

<212> DNA

<213> artificial sequence

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<223> alkK in the bacterial expression construct pTRCNalkK

<400> 12

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| gagaagtaac aagaagttgt tggaaagaag tggagcttcg tgctcgtaag ctcgcttctg | 180 |
| cattgggcaa gatgggtctt acgcctagtg atcgttgtgc aacgattgca tggaacaata | 240 |

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| aactgccacg caatggtact ggcaagattt tgaagaatcg tttgcgcgag aaatatggtg | 1620 |
| atattttatt gcgcagtagt tcttctgtct gtgaataagg atcc | 1664 |

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<211> 1653

<212> DNA

<213> artificial sequence

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<223> alkK in the plant expression construct pUC-C4PPDK.TS.AlkK

<400> 13

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| agaagttgtt ggaaagaagt ggagcttcgt gctcgtaagc tcgcttctgc attgggcaag | 180 |
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| gaggatctaa ttggtcagggt tgatgataac tatatatggc ctgatgtaga tgaaaatgag | 540 |
| gcgtctagtc tatgttacac atcagggtact acgggcaacc cgaagggtgt actttattca | 600 |
| caccgctcga cagttttgca ttcaatgacc accgcaatgc cagacacact aaatttgtct | 660 |
| gcgcgagata ccattttgcc cgtagttcca atgtttcatg taaatgcatg ggggactcca | 720 |
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| agtttatcga agttgattgc tagcgaagga gttagcattg ctcttgggggt gccggttgtt | 840 |
| tggcaggggt tgttagcggc acaagccggt aatggttcta aaagccaaag cctcacgcgg | 900 |
| gttgtttag taggttcggc ctgtcctgcg tctatgatta gagaatttaa cgatatatat | 960 |
| ggtgttgaag ttattcatgc ttgggggtatg actgagcttt cgccatttgg cacggcaaac | 1020 |
| actccactcg cgcaccacgt agatttatct ccagatgaaa agctttcact gcgcaaaagc | 1080 |
| caagggcgcc cgccttacgg tgtcgagtta aaaatcgta atgatgaggg gattagacta | 1140 |
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| gctaccatag attcggacgg tttcatgaca atctgtgatc gtgcaaagga cattataaag | 1320 |
| tctggcgggt agtggatcag tacggtagag ctggagagta ttgcgattgc gcaccctcat | 1380 |
| attgttgatg ctgctgttat agctgcaagg cacgaaaaat gggacgagcg acctctcctc | 1440 |
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| gataagggtg ctagatggca aattccagat gccgctatct ttgttgaaga actgccacgc | 1560 |
| aatggtactg gcaagatttt gaagaatcgt ttgcgcgaga aatatggtga tattttattg | 1620 |
| cgcagtagtt cttctgtctg tgaataaggt acc | 1653 |

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<213> artificial sequence

<220>
<223> XbaI restriction site

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<210> 15
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<223> KpnI restriction site

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